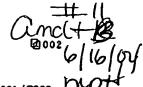Attorney's Docket No.: 07844-416001 / P380

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Bruce E. Kaskel   Art Unit : 2671   **OFFICIAL**
Serial No. : 09/765,957   Examiner : Almis R. Jankus
Filed   : January 19, 2001
Title   : APPROXIMATING GRADIENTS WITH OFFSET MIDPOINT **FAX RECEIVED**

Commissioner for Patents
P.O. Box 1450   **AUG 2 5 2003**
Alexandria, VA 22313-1450
                                                             GROUP 2600

AMENDMENT IN REPLY TO ACTION OF MAY 22, 2003

In reply to the action mailed May 22, 2003, please amend the application as indicated on the following pages. Applicant asks that all claims be allowed in view of the amendment to the claims and remarks contained on the following sheets, a total of 12 pages.

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1.   (Original) A method for approximating a gradient, the gradient defining a nonlinear transition from one color or gray level to another in an image where the rate of transition is determined by the function $y = x^c$ where $c > 1$, the method comprising:

identifying an error tolerance;

selecting a starting point and a set point on a curve defined by the function;

defining a linear step from the start point to the set point;

calculating a maximum error between the linear step and the curve;

if the maximum error is less than or equal to the error tolerance,

approximating a portion of the gradient corresponding to the linear step with the linear step,

if the maximum error is more than the error tolerance,

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using an iterative process to move to an answer in a expeditious fashion. The guesses are not themselves somehow linked forming segments that are used to approximate a curve. Accordingly, claim 11 is not anticipated by Knittel.

Claim 12 is directed to a method for approximating a gradient. Claim 12 is allowable for at least the same reasons set forth above with respect to claim 1 and claim 11. In addition, claim 12 is not anticipated by Knittel because the reference fails to teach or suggest selecting an optimal number of linear stops on a curve using Newton's Method to recursively sub-divide the curve to find a next linear portion that approximates a corresponding portion of the curve within the error tolerance. Again, Knittel only shows using a iterative method to determine a solution to a square root problem. Knittel does not teach or suggest sub-dividing curves to find a linear portion that approximates a corresponding portion of the curve.

Claim 13 is allowable for at least the same reasons set forth above with respect to claim 1. Claim 14 is allowable for at least the same reasons set forth above with respect to claim 11. Claim 15 is allowable for at least the same reasons set forth above with respect to claim 12.

If it is determined that fees are due with respect to this Amendment, please apply any charges to deposit account 06-1050.

Respectfully submitted,

Date: August 22, 2003

Mark D. Kirkland , Reg. No. 40,048

Fish & Richardson P.C.
500 Arguello Street, Suite 500
Redwood City, California 94063
Telephone: (650) 839-5070
Facsimile: (650) 839-5071

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